

# IRWAN BELLO

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[irwanbello.github.io](http://irwanbello.github.io)

## EDUCATION

<b>Stanford University</b> - <i>MS in Statistics/Data Science (GPA: 3.89/4)</i>			Stanford, US
Reinforcement Learning	Deep Learning	Statistical Learning	Sept 2014 – June 2016
Graphical Models	Computer Org & Systems	Statistical Modeling	
Stochastic Processes	Distributed Computing	Statistical Consulting	
<i>Teaching Assistant in CS231n: Convolutional Neural Networks for Visual Recognition (Winter 2016)</i>			
<b>Ecole Centrale Paris</b> - <i>MS in Applied Math (GPA: 3.85/4)</i>			Paris, France
Machine Learning	Algorithms	Graph Theory	Sept 2011 – June 2013
Optimization	Probability Theory	Linear Algebra	
<i>Teaching Assistant: Conducted weekly oral exams in Math for sophomore students</i>			
<b>Lycée Hoche</b> - <i>Major in Math, Physics and Computer Science (GPA: 4/4)</i>			Versailles, France
Preparatory program leading to the nationwide entrance exams to the French Grandes Ecoles.			Sept 2009 – June 2011

## EXPERIENCE

<b>Google Brain Resident – Google Brain</b>		Mountain View, US
One year <i>research program</i> in deep learning: <a href="http://g.co/brainresidency">g.co/brainresidency</a> . Focus on <i>deep reinforcement learning, combinatorial optimization, search and backtracking</i> .		June 2016-June 2017
<b>Research Assistant - AI Lab (Andrew Ng's group)</b>		Stanford, US
Research on <i>deep reinforcement learning</i> with an emphasis on <i>transfer learning</i> within the Atari domain and from the Atari domain to computer vision tasks.		April 2015 – Dec 2015
<b>Data Scientist Intern - Quora</b>		Mountain View, US
Built a pipeline ( <i>backend and frontend</i> ) to infer the knowledge in demand, analyzed historical traffic data and <i>prototyped a neural network language model</i> for question generation.		June 2015 – Sept 2015
<b>Data Scientist Intern - PopSugar</b>		San Francisco, US
Led a project on style inference for ShopStyle's clothing brands: <i>Web crawling, NLP &amp; text mining, multi label classification using textual data and clustering analysis</i> based on survey data.		May 2014 – Aug 2014
<b>Visiting Research Student - NICTA (Ambiata)</b>		Sydney, Australia
Worked on <i>feature engineering (graph spectral theory, location inference)</i> and <i>feature selection (entropy based methods)</i> for large scale call records data. Python, Scala/Scoobi and GraphChi.		Nov 2013 – April 2014
<b>Machine Learning Intern - Infosys Machine Learning Lab</b>		Bangalore, India
Implemented a prototype for a general E-commerce <i>online recommender system based on Markov Decision Process</i> using Python.		July 2013 – Sept 2013

## PAPERS

**Irwan Bello\***, Hieu Pham\*, Quoc Le, Mohammad Norouzi, Samy Bengio. Neural Combinatorial Optimization with Reinforcement Learning. *Under review for ICLR 2017*. <https://arxiv.org/pdf/1611.09940.pdf>

**Irwan Bello**, Yegor Tkachenko. Learning Control Policies from High-Dimensional Visual Inputs. *CS231n project (2015)*. [http://cs231n.stanford.edu/reports/ibello\\_yegor\\_paper.pdf](http://cs231n.stanford.edu/reports/ibello_yegor_paper.pdf)

## PROJECTS

<b>Data Science Summer School</b>		Guadeloupe
Organizing a one week data science summer school in an eight-person team. Designing curriculum, class material, and coordinating logistics. Will be teaching a variety of subjects.		Planned for Feb 2017
<b>Humanitarian mission - Les Enfants du Soleil (NGO)</b>		Fiana, Madagascar
Organized a €20k volunteering project in a twelve-person team. Raised funds and identified most urgent needs. Taught and built infrastructures in a village of 100 orphans for 6 weeks.		Sept 2011-July 2012

## SKILLS

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Programming	General: Python, C/C++, SQL, Bash/Unix, Git, Docker, Vim.
	Machine Learning: Tensorflow, Numpy, Scipy, Pandas, Scikit-Learn, Keras, Lua/Torch, R. Prior experience with Scala, Graphchi/Graphlab and HTML.
Languages	Native French speaker, French-German baccalaureate.

## AWARDS

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Aspen Institute	Aspen Ideas Festival Scholar	2016
Monahan Fulbright Scholar (30k\$)	Five most deserving French STEM graduates studying in the US.	2014
Rotary Global Grant (30k\$)	Series of inspirational talks on my interests and life experience.	2014
Mathematical Olympiad	Honors at the French Mathematical Olympiad in the 11th grade.	2008

## EXTRACURRICULARS

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Other skills	Piano, DJing, capoeira, tennis, soccer.
Interests	DJing & music production, future technologies, large scale social impact, competitive super smash bros melee, public speaking, travelling.